

Remarks/Arguments

Reconsideration and allowance are respectfully requested in light of the following remarks.

Upon entry of this amendment, claims 1, 3, 5-12 and 20-35 would now be pending. Claims 2, 4 and 13-19 have been cancelled and new claims 27-35 added. Thus, the total number of pending claims after the amendment is believed to be the same as before, so no new fees should be due.

New claims 27-35 replace prior claims 13-19 and are directed to an aqueous binder composition for making glass fiber products. Claim 27 is independent and the remaining claims are dependent. There is no direct correspondence between the new claims and the canceled claims. The new claims, however, find support in the original claims 13-19 and in the specification, *inter alia*, in paragraphs [34], [36], [37], [39], [40], [42], [44], [45], [48], [49], and [52]. No new matter has been added.

Claims 13-19 were rejected as being unpatentable within the meaning of 35 U.S.C. 103(a) over Reck et al., U.S. Patent 6,114,464 (Reck '464) or Rodrigues, U.S. Patent Pub. 2004/0082241 (Rodrigues '241). These rejections are respectfully traversed.

Renk '464 describes a thermally curable mixture of hydroxyalkylated polyamines and polycarboxylic acids useful as binders for shaped articles, such as chipboard. Thus, any binder composition taught by Renk '464 requires two distinct components (1) a water-soluble, linear or branched aliphatic compound containing at least two functional amino groups and having at least one hydroxyalkyl moiety and (2) an addition polymer containing from 5 to 100% by weight of units derived from at least one ethylenically unsaturated mono- or dicarboxylic acid and obtainable by free-radical polymerization. The addition polymer, component (2) contains from 5 to 100% by weight, of units derived from at least one ethylenically unsaturated mono- or dicarboxylic acid. Other vinyl compounds that can be polymerized with the unsaturated mono- or dicarboxylic acid(s) are described in columns 15-16 of the Renk '464 patent.

While it is true that buried within the extensive disclosure of what are identified as potentially optional comonomers (monomer b₁ through b₉) are some unsaturated monomers having a hydroxyl moiety, such as hydroxyethyl (meth)acrylate, we submit that a skilled worker would not find it obvious to use such monomers. The Renk '464 patent does not recognize the significance of that disclosure and actually teaches away from their use. Indeed, we submit that

through the actual examples of the invention, the Renk '464 patent ultimately directs the skilled worker to use component (1), *i.e.*, the linear or branched aliphatic compound containing at least two functional amino groups, as the sole source of hydroxyl groups for reacting with the addition polymer, component (2). In particular, all of the Examples in the Renk '464 patent appear to use solely unsaturated carboxyl monomers for making the addition polymer component (2) and the use of an unsaturated hydroxyl monomer for making the addition polymer is not remotely mentioned.

The Rodrigues '241 published patent application relates to a non-woven binder composition containing a copolymer binder synthesized from at least one acid-functional monomer, and having at least one hydroxyl, amide, or amine functional monomer. The Rodrigues '241 published patent application also relates to a polyamine crosslinking agent for any polymer binder.

In response to this rejection, applicants submit the enclosed Rule 131 Declaration of the inventors. This declaration demonstrates that that the inventors reduced the claimed invention to practice before the earliest possible effective date of the Rodrigues '241 published patent application, *i.e.*, before October 29, 2002.

With respect to the rejection based on the Rodrigues '241 published patent application, the aqueous binder composition claims under examination have at least two key requirements, (1) an adduct resulting from free radical solution polymerization of (A) an unsaturated carboxylic acid monomer having a molecular weight of less than 750 and (B) an unsaturated hydroxyl monomer having a molecular weight of less than 750, and (2) the polymerization must have been conducted in the presence of a chain transfer agent. None of the claims of the Rodrigues '241 published patent application contain the second requirement and thus the Rodrigues '241 published patent application does not claim the same patentable invention being pursued by applicants.

As outlined in the enclosed Rule 131 declaration, before August 16, 2002, well before the effective date of the Rodrigues '241 published patent application, applicants synthesized several water soluble binders constituting a free radical solution-polymerized adduct of (A) an unsaturated carboxylic acid monomer having a molecular weight of less than 750 (the declaration documents the use of maleic anhydride or itaconic acid) and (B) an unsaturated hydroxyl monomer having a molecular weight of less than 750 (the declaration documents the

use of hydroxyethyl acrylate), polymerized in the presence of a chain transfer agent (the declaration documents the use of allyloxypropane diol, mercapto ethanol, or sodium-1-allyloxy-2-hydroxypropyl sulfonate). The syntheses are documented in paragraphs 5-8, 12 and 14. In addition, paragraphs 9-11, 13 and 15 documents the preparation and testing of fiber glass mats using several of the water soluble binders that were synthesized. As a consequence of the test results, applicants recognized that the binders were useful for making glass fiber mats.

This showing demonstrates that applicants made their invention before the effective date of the Rodrigues '241 published patent application.

Applicants request reconsideration of the pending claims.

Respectfully submitted,

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